



**United States Department of Agriculture
Natural Resources Conservation Service**

Wildlife Enhancement Activity – Fish and Wildlife Structures

Fish and Wildlife Structures

Habitat loss is one of the leading causes of declines in fish and wildlife populations. Often, the lack of suitable habitat can be partially offset by the establishment of artificial habitat structures.

Benefits

Artificial structures can be developed to enhance habitat for many species of fish and wildlife including trout, bass, catfish, bluebirds, tree swallows, house wrens, wood ducks, bats and other cavity nesting species. Artificial structures are only appropriate where a lack of natural structure occurs.

Criteria for Fish and Wildlife Structures

Preferred habitats vary according to species needs, but often include hayfields, pastures, large grassy patches, shrubby areas, marshes, grassy rights-of-way, and edges of woodlots, usually where disturbance factors (e.g., traffic, construction, etc.) are minimal. Nest structures for birds will be built in accordance with the details in the publication “Artificial Nesting Structures” ([Tech. Note 190-23](#)). Bat boxes will be built in accordance with the details in the publication “Bats” ([Tech. Note 190-4](#)) or from [Bat Conservation International](#). Brush piles will be constructed according the Job Sheet for Brush Piles available from those NRCS offices in states where they are considered to be an appropriate practice.

In-stream structures for fish and aquatic species will be constructed only where suitable as determined by NRCS staff and formally sanctioned partners. Habitat structures can be placed to provide hiding cover (large wood, or LUNKERS), improve fish passage (rock weirs, ladders), or prevent entrapment in irrigation canals (fish screens). Stream structures to improve fish habitat will be built in accordance with NRCS designs as provided in NEH 654: Stream Restoration Design Handbook: [Large Woody Material](#) , and other NRCS approved designs: e.g., streambank cover structures such as [LUNKERS](#); fish [passage or fish screen structure](#) designs. The aforementioned technical design documents can be obtained from the local NRCS office, or online by holding down the control button and clicking the underlined text.

- Select species whose habitat you wish to improve
- Match species to available habitat
- Construct or buy structures that match species needs
- Build or buy sturdy structures
- Locate structures near preferred habitat



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Operation and Maintenance:

Structures will be maintained as needed. Structures should be inspected annually and cleaned out if necessary prior to the beginning of nesting or spawning season. For bird structures, the desirable habitat adjacent to the structures will be maintained as well.

References:

- U.S. Department of Agriculture, Natural Resources Conservation Service. 2004. Artificial Nesting Structures. Natural Resources Conservation Service and Wildlife Habitat Council Fish and Wildlife Habitat Management Leaflet, Number. 20.
- House, R. 1996. An evaluation of stream restoration structures in a coastal Oregon stream 1981- 1993. North American Journal of Fisheries Management 16:272–281.
- Roni, P., T. J. Beechie, R. R. Bilby, Leonetti, F. E., M. M. Pollock, and G. R. Pess. 2002. A Review of stream restoration techniques and a hierarchical strategy for prioritizing restoration in Pacific Northwest watersheds. North American Journal of Fisheries Management 22:1–20, 2002.
- Reich, M. R., J. L. Kershner, and R. C. Wildman 2003. Restoring streams with large wood. Pages 355-366 in S. V. Gregory, K. L. Boyer, and A. M. Gurnell, editors. The ecology and management of wood in world rivers, American Fisheries Society, Symposium 37, Bethesda, Maryland.